

Patent Application No. 09/821,168

**REMARKS**

This Amendment is in response to the Office Action dated April 28, 2005. In the Office Action, claims 1-12 were rejected under 35 USC §102. By this Amendment, claims 1, 4, 10, 12 and 14 are amended and claims 16-18 are added. Currently pending claims 1-18 are believed allowable, with claims 1, 10 and 12 being independent claims.

**CLAIM REJECTIONS UNDER 35 USC §102:**

Claims 1-12 were rejected as anticipated under 35 USC §102 by Rothermel et al., "A Fault-Tolerant Protocol for Providing the Exactly-Once Property of Mobile Agents" ("Rothermel"). It is noted that claims 13-15 were not discussed in the Office Action. To anticipate a claim under 35 USC §102, a reference must teach every element of the claim. MPEP 2131.

**Claim 1**

Claim 1 is amended to recite, in part, "moving a modified mobile agent resulting from the successful execution to the next stage from at least two forwarding places." Support for this claim element can be found at least at page 7, lines 14-19 of the Application. The Applicant respectfully submits that this claim element is not found in Rothermel.

Rothermel models fault-tolerant and exactly-once mobile agent execution as a sequence of two problems: leader election (called voting protocol in Rothermel) and distributed transactions. Communication between consecutive stages  $S_i$  and  $S_{i+1}$  is based on transaction message queues. At each stage, a place retrieves the agent from its input queue, executes the agent, and places the resulting agent in the input queues of the next stage's places as one transaction. As shown in Fig. 3 of Rothermel, only the place containing the executed agent forwards the agent from a current stage  $S_i$  to the next stage  $S_{i+1}$ .

In contrast to the teachings of Rothermel, claim 1 requires that the modified mobile agent be moved to the next stage by at least two forwarding places.

The Applicant respectfully submits that for at least this reason, claim 1 is not anticipated by Rothermel. Furthermore, claim 1 is believed allowable over the cited documents and such allowance is earnestly solicited.

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Claims 2-9, 13 and 16

Claim 2-9, 13 and 16 are dependent on (either directly or indirectly) and further limit claim 1. Since claim 1 is believed allowable over the cited documents, claims 2-9, 13 and 16 are also believed allowable for at least the same reasons as claim 1.

Claim 4

Claim 4 recites, in part, "wherein a decision is generated in each stage including at least one of the primary place that corresponds to the place in which the mobile agent has executed successfully, the set of places of the next stage to which the modified mobile agent is moved, and the resulting modified mobile agent."

Thus, claim 4 requires the generated decision to include three items of information:

1. at least one of the primary place that corresponds to the place in which the mobile agent has executed successfully;
2. the set of places of the next stage to which the modified mobile agent is moved; and
3. the resulting modified mobile agent.

The Applicant respectfully submits that Rothermel does not teach or suggest a generated decision with such three items of information. Rothermel merely mentions, "[t]he node with the highest priority becomes the initial worker of a stage." Rothermel, page 3, col. 1, lines 12-13.

For at least this reason, and the reasons discussed above for claim 1, the Applicant respectfully contends that claim 4 is allowable over the cited documents.

Claim 16

Claim 16 is newly introduced by this Amendment. Claim 16 recites, "wherein non-primary places are configured to verify the modified mobile agent has successfully arrived at the set of places of the next stage to which the modified mobile agent is moved." Support for claim 16 can be found at least at page 7, lines 15-19 of the pending Application.

The Applicant respectfully submits that none of the references of record teach or suggest the features of claim 16. Thus, for this reason and the reasons discussed for claim 1, claim 16 is believed allowable.

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Claims 10 and 12

Independent claims 10 and 12 recite similar limitations as discussed above for claim 1. Thus, claims 10 and 12 are believed allowable for the same reasons as claim 1.

Claims 11 and 14

Claim 11 and 14 are dependent on and further limit claim 10. Since claim 10 is believed allowable over the cited documents, claims 11 and 14 are also believed allowable for at least the same reasons as claim 10.

Claim 17

Claim 17 is newly introduced by this Amendment. Claim 17 recites, "wherein non-primary places are configured to verify the modified mobile agent has successfully arrived at the set of places of the next stage to which the modified mobile agent is moved." Support for claim 17 can be found at least at page 7, lines 15-19 of the pending Application.

The Applicant respectfully submits that none of the references of record teach or suggest the features of claim 17. Thus, for this reason and the reasons discussed for claim 10, claim 17 is believed allowable.

Claims 15

Claim 15 is dependent on and further limits claim 12. Since claim 12 is believed allowable over the cited documents, claim 15 is also believed allowable for at least the same reasons as claim 12.

Claim 18

Claim 18 is newly introduced by this Amendment. Claim 18 recites, "wherein non-primary places are configured to verify the modified mobile agent has successfully arrived at the set of places of the next stage to which the modified mobile agent is moved." Support for claim 18 can be found at least at page 7, lines 15-19 of the pending Application.

The Applicant respectfully submits that none of the references of record teach or suggest the features of claim 18. Thus, for this reason and the reasons discussed for claim 12, claim 18 is believed allowable.

**CONCLUSION**

In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully


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requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

No fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

Respectfully submitted,

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